

In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1 1. (Currently Amended) A method of data processing comprising:
2 connecting a plurality of data processing nodes in a peer-to-
3 peer relationship, thereby enabling each data processing node to
4 receive data packets from adjacent input connected nodes and to
5 transmit data packets to adjacent output connected nodes;
6 at each data processing node examining data packets received
7 ~~for~~ from adjacent input connected nodes and selectively routing the
8 received data packet to the current data processing node, routing
9 to an adjacent output connected node or both, whereby any data
10 processing node can transmit a data packet to any destination data
11 processing node for forwarding by other data processing nodes to
12 the destination data processing node;
13 at each data processing node responding to a receipt
14 confirmation data packet received from a source data processing
15 node by transmitting an acknowledge data packet to the source data
16 processing node transmitting that receipt confirmation data packet;
17 and
18 at least one supervisory data processing node periodically
19 transmitting a receipt acknowledge data packet to each other data
20 processing node and determining a data processing node has failed
21 upon failure to receive an acknowledge data packet from the data
22 processing node in response to a receipt confirmation data packet.

1 2. (Currently Amended) The method of data processing of claim
2 1, further comprising the steps of:
3 storing health data at each data processing node concerning
4 the current health operating status of ~~the~~ that data processing
5 node; and

6 wherein said step of responding to a receipt confirmation data
7 packet includes transmitting an acknowledge data packet including
8 the stored health data.

3. (Canceled)

1 4. (Currently Amended) The method of data processing of claim
2 1, further comprising:

3 at each data processing node storing a unique node ID;

4 at each data processing node storing an indication of node IDs
5 corresponding to each adjacent output connected node;

6 said step of selectively routing the data packet includes

7 routing the received data packet to the current data
8 processing node if a header of the data packet includes the
9 node ID of the data processing node,

10 routing the received data packet to an adjacent output
11 connected node if the header of the data packet includes a
12 node ID matching the corresponding stored indication of node
13 IDs for the adjacent output connected node, and

14 not routing the received data packet to the current data
15 processing node or to any adjacent output connected node if
16 the header of the data packet includes a node ID not matching
17 the node ID of the data processing node or the stored
18 indication of node IDs for any adjacent output connected node.

5. (Canceled)

1 6. (Currently Amended) The method of data processing of claim
2 1, wherein each data processing node includes a CPU core and a
3 bridge circuit connected to the CPU core, the adjacent input
4 connected nodes and the adjacent output connected nodes, said
5 method further comprising the steps of:

6 at each data processing node employing a program running on
7 the CPU core to periodically reset a timer in the bridge ~~circuit,~~
8 circuit and ~~at each data processing node~~ using the bridge circuit
9 to not route any received data packet to the current data
10 processing node or to any adjacent output connected node upon
11 expiration of a time of the timer, whereby a data processing node
12 having a failed CPU core absorbs all received data packets.

1 7. (New) A method of data processing comprising:
2 connecting a plurality of data processing nodes in a peer-to-
3 peer relationship, thereby enabling each data processing node to
4 receive data packets from adjacent input connected nodes via input
5 ports and to transmit data packets to adjacent output connected
6 nodes via output ports;
7 at each data processing node storing a unique node ID;
8 at each data processing node storing for each output port an
9 indication of a set of node IDs to be reached via that output port;
10 at each data processing node examining data packets received
11 from adjacent input connected nodes and selectively routing the
12 data packet including
13 routing the received data packet to the current data
14 processing node if a header of the received data packet
15 includes the node ID of the data processing node,
16 routing the received data packet to an output port if the
17 header of the received data packet includes a node ID within
18 the corresponding stored indication of node IDs for that
19 output port;
20 at each data processing node responding to a receipt
21 confirmation data packet received from a source data processing
22 node by transmitting an acknowledge data packet to the source data
23 processing node transmitting the receipt confirmation data packet;
24 and

25 at least one supervisory data processing node periodically
26 transmitting a receipt acknowledge data packet to each other data
27 processing node and determining a data processing node has failed
28 upon failure to receive an acknowledge data packet from the data
29 processing node in response to a receipt confirmation data packet.

1 8. (New) The method of data processing of claim 7, further
2 comprising the steps of:

3 storing health data at each data processing node concerning
4 that current health operating status of the data processing node;
5 and

6 wherein said step of responding to a receipt confirmation data
7 packet includes transmitting an acknowledge data packet including
8 the stored health data.

1 9. (New) The method of data processing of claim 7, further
2 comprising:

3 said step of selectively routing the data packet includes not
4 routing the received data packet to the current data processing
5 node or to any output port if the header of the data packet
6 includes a node ID not matching the node ID of the data processing
7 node or the stored indication of node IDs for any output port.

1 10. (New) The method of data processing of claim 7, wherein
2 each data processing node includes a CPU core and a bridge circuit
3 connected to the CPU core, the adjacent input connected nodes and
4 the adjacent output connected nodes, said method further comprising
5 the steps of:

6 at each data processing node employing a program running on
7 the CPU core to periodically reset a timer in the bridge circuit
8 and using the bridge circuit to not route any received data packet
9 to the current data processing node or to any adjacent output

10 connected node upon expiration of a time of the timer, whereby a
11 data processing node having a failed CPU core absorbs all received
12 data packets.